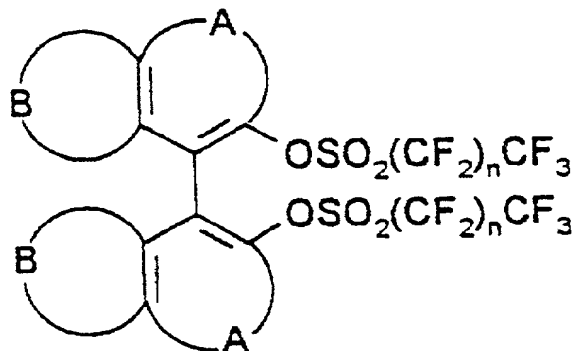


Claims

1. Bis(perfluoro-n-alkanesulfonates) of the formula I:

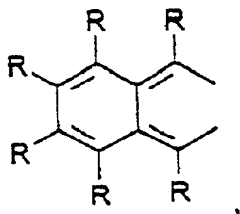
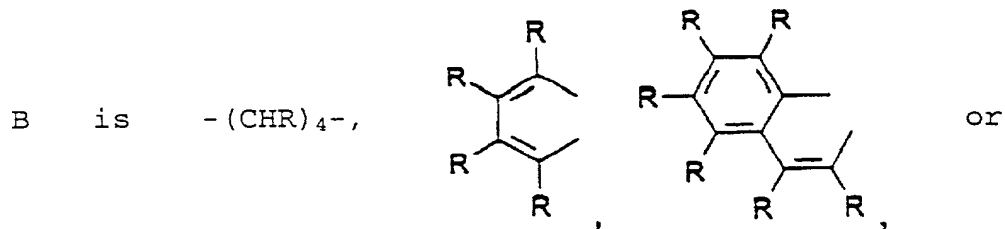
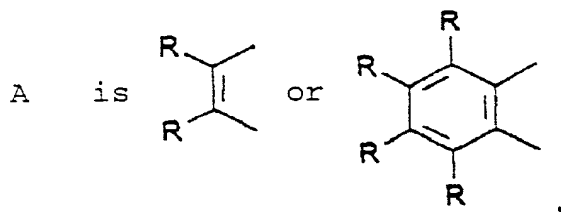


5

where

n is 3, 4, 5, 6, 7, 8 or 9,

10



15

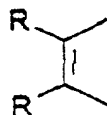
where nonadjacent groups =CR- may be replaced by =N-, and -CHR- may be replaced by -NR-, -O- or -S-

and

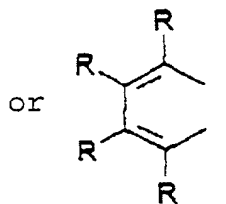
5 R is alkyl or alkoxy having from 1 to 12 carbon atoms, halogen, -CN, -CF₃, -OCF₃ or unsubstituted phenyl or phenyl which is monosubstituted or polysubstituted by alkyl or alkoxy having from 1 to 12 carbon atoms, halogen or -CN, where if more than one R is present the substituents R may be identical or different.

10

2. Compounds of the formula I according to Claim 1, characterized in that A is

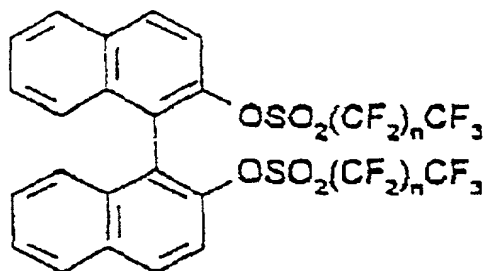


and B is -(CHR₂)₄-

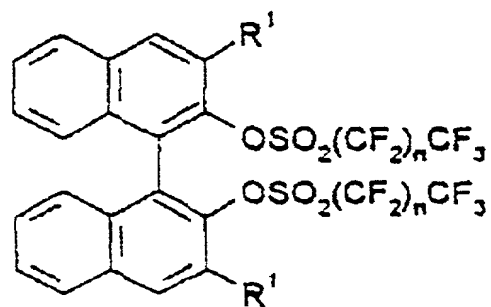


15 3. Compounds of the formula I according to Claim 1 or 2, characterized in that R is alkyl or alkoxy having from 1 to 7 carbon atoms, F, Br, CN, -CF₃, -OCF₃.

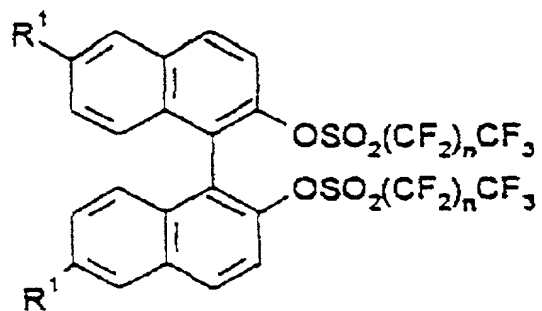
20 4. Compounds of the formulae I1, I2, I3, I7 and I8:



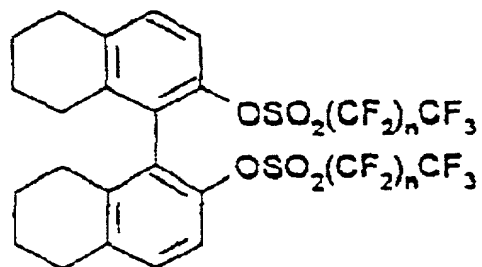
11



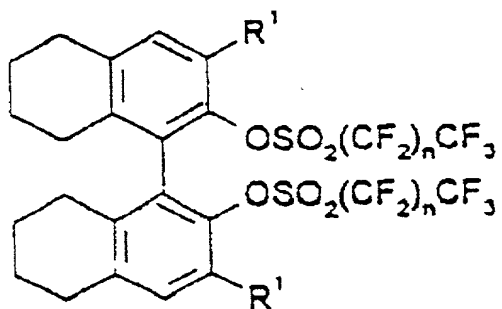
12



13



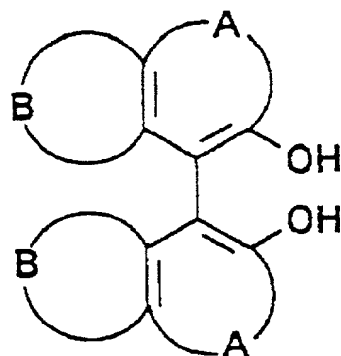
17



18

where n is as defined above and R¹ is alkyl or alkoxy having from 1 to 3 carbon atoms, F, Br, CF₃ or CN.

- 5 5. Process for preparing the bis(perfluoro-n-alkanesulfonates) of the formula I, characterized in that the compounds of the formula II:



10

where A and B are as defined in Claim 1 are reacted with perfluoro-n-alkanesulfonyl fluoride, chloride or anhydride in the presence of a base.

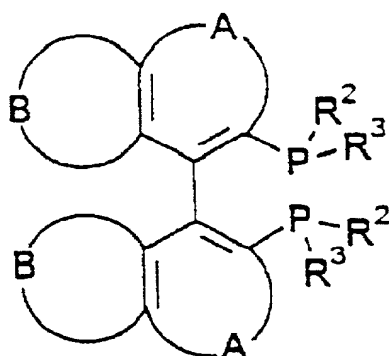
- 15 6. Process for preparing the compounds of the formula I according to Claim 5, characterized in that the compounds of the formula II are reacted with nonafluoro-n-butanesulfonyl fluoride or perfluoro-n-octanesulfonyl fluoride in the presence of a base.

20

7. Process for preparing the compounds of the formula I according to Claim 5 or 6, characterized in that the base used is a pyridine, a pyrimidine, a pyridazine, a trialkylamine or a dialkylarylamine.

25

8. Use of the bis(perfluoro-n-alkanesulfonates) of the formula I for preparing diphosphines of the formula III:



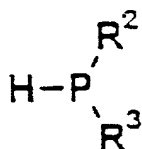
III

where A and B are as defined above

and

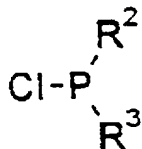
R^2, R^3 are phenyl, 4-methylphenyl, 3-methylphenyl, 2-methylphenyl, 3,5-dimethylphenyl, 3,5-di-tert-butylphenyl, 4-methoxyphenyl, 3-methoxyphenyl, 2-methoxyphenyl, 3,5-dimethoxyphenyl, cyclohexyl or cyclopentyl.

9. Process for preparing the compounds of the formula III, characterized in that the compounds of the formula I are reacted in the presence of a transition metal catalyst and a base either with phosphines of the formula IV



IV

or with zinc and phosphines of the formula V



V

where R^2 and R^3 are as defined above.

- | Genotype | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | 2038 | 2039 | 2040 | 2041 | 2042 | 2043 | 2044 | 2045 | 2046 | 2047 | 2048 | 2049 | 2050 | 2051 | 2052 | 2053 | 2054 | 2055 | 2056 | 2057 | 2058 | 2059 | 2060 | 2061 | 2062 | 2063 | 2064 | 2065 | 2066 | 2067 | 2068 | 2069 | 2070 | 2071 | 2072 | 2073 | 2074 | 2075 | 2076 | 2077 | 2078 | 2079 | 2080 | 2081 | 2082 | 2083 | 2084 | 2085 | 2086 | 2087 | 2088 | 2089 | 2090 | 2091 | 2092 | 2093 | 2094 | 2095 | 2096 | 2097 | 2098 | 2099 | 2100 |
|----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | 2038 | 2039 | 2040 | 2041 | 2042 | 2043 | 2044 | 2045 | 2046 | 2047 | 2048 | 2049 | 2050 | 2051 | 2052 | 2053 | 2054 | 2055 | 2056 | 2057 | 2058 | 2059 | 2060 | 2061 | 2062 | 2063 | 2064 | 2065 | 2066 | 2067 | 2068 | 2069 | 2070 | 2071 | 2072 | 2073 | 2074 | 2075 | 2076 | 2077 | 2078 | 2079 | 2080 | 2081 | 2082 | 2083 | 2084 | 2085 | 2086 | 2087 | 2088 | 2089 | 2090 | 2091 | 2092 | 2093 | 2094 | 2095 | 2096 | 2097 | 2098 | 2099 | 2100 | |